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(First Revision)

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Indian Standard
SPECIFICATION FOR CYCLE SADDLE LEATHER
(First Revision)

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*Shri R. Sneberger is also alternate to Shri N. R. Sarkar.

Indian Standard
SPECIFICATION FOR CYCLE SADDLE LEATHER
(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 27 October 1971, after the draft finalized by the Leather Sectional Committee had been approved by the Chemical Division Council.

0.2 Good cycle saddles require well-tanned leather butts from good quality hides of buffalo, cow or ox, free from flay cuts. The tannage and subsequent treatments require scientific control in order to impart the desired characteristics of the leather which should be strong and durable, and be able to withstand sudden strain and to carry a steady load without undergoing any appreciable deterioration. The leather should not be too stretchy but at the same time pliable with the ability to retain its shape when made into a saddle and also during subsequent use.

0.3 This standard was originally published in 1960. Realizing the development made lately in the commercial production not only of cycle saddles but also of strong and pliable cycle saddle leather in the country, the Committee decided to revise the standard to bring it in line with present day product quality. In this revision, requirements for water absorption, colour fastness and percentage elongation have been revised and in addition requirements for tongue tear strength has been introduced. Requirements for chemical characteristics, such as degree of tannage, and oil and fat content have been revised and soluble ash omitted.

0.4 It has been found by experience that by treating leather with 0·1 percent of sodium trichlorophenate, sodium pentachlorophenate and peranitrophenol based on dry weight of the finished leather, leather could be made effectively mildew-proofed without appreciably imparting toxicity to the leather. Any other fungicide or a combination of fungicides which is known to be harmless to human skin in small dosages should be worked out by experiments to arrive at the optimum dosage of fungicides, so as to cause no growth of mildew.

0.4.1 Extreme caution should be exercised since the excess dosage of fungicides is harmful which often causes chafing, irritation or dermatitis.

To arrive at the optimum dosage of fungicides mentioned in **0.4**, the method given in LB : 3 of IS : 6191-1971* should be followed

0.5 This standard contains clause **4.1** which calls for agreement between the purchaser and the supplier.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements, and methods of sampling and tests for cycle saddle leather in natural and dyed condition. This leather may also be used for purposes where strong and pliable leather is required.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definition given in IS : 1640-1960‡ shall apply.

3. REQUIREMENTS

3.1 Raw Material — The leather shall be processed from the butt portion of good quality buffalo, cow of ox hides that will yield ultimately leathers of thickness specified by the purchaser.

3.2 Tanning — The materials shall be in the form of butts tanned through the entire thickness by vegetable tanning materials or extracts, with or without the use of syntans and prechroming. A cut made by knife shall be smooth showing that the inside fibre is compact.

3.3 Fungicidal Additives — At the end of tanning operation, but before drying, suitable ungicides (*see* **0.3**) shall be incorporated in the leather.

3.3.1 Fungicides used to promote fungi-resistance in the leather shall be effective and non-toxic. The material shall show no growth of mildew when examined visually after the completion of the test prescribed in LB : 2 of IS : 6191-1971*.

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*Methods of microbiological, colourfastness and microscopical tests for leather.

†Rules for rounding off numerical values (*revised*).

‡Glossary of terms relating to hides, skins and leather.

3.4 Currying — The leather shall be properly dressed with suitable mixture of oils and fats. After the currying process is complete, the material shall be aged for a sufficient period to mature thoroughly.

3.5 Finishing — The grain shall be well set to make a smooth and even surface. The flesh side shall be clean and free from serious defects. The leather shall be firm and pliable.

3.6 Physical Requirements — The leather shall comply with the physical requirements prescribed in Table 1.

TABLE 1 PHYSICAL REQUIREMENTS FOR CYCLE SADDLE LEATHER

SL No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO	
			IS : 5914-1970*	IS : 6191-1971†
(1)	(2)	(3)	(4)	(5)
i)	Thickness	As agreed to between the purchaser and the supplier. Tolerance on thickness shall be ± 0·5 mm	6.2.5 of LP : 2	—
ii)	Tensile strength, kg/cm^2, *Min*	210	LP : 6	—
iii)	Elongation at 70 kg/cm^2 load:			
	a) Temporary, 15 minutes after applying the load when load is acting, percent, *Max*	10	LP : 6	—
	b) Permanent, 4 hours after releasing the load, percent, *Max*	3	LP : 6	—
iv)	Tongue tear strength, kg/cm thickness, *Min*	45	LP : 9	—
v)	Water absorption, percent increase in weight, *Max*:		LP : 12	—
	a) In 30 minutes	45		
	b) In 2 hours	50		
	c) In 24 hours	50		
vi)	Crackiness of the grain	Shall not crack on mandrel No. 3	LP : 13	—
vii)	Colour fastness to rubbing (crocking test)	To pass the dry and wet rubbing	—	LF : 10

*Methods of physical testing of leather.

†Methods of microbiological, colourfastness and microscopical tests for leather.

3.7 Chemical Requirements — The leather shall also comply with the requirements prescribed in Table 2.

TABLE 2 CHEMICAL REQUIREMENTS FOR CYCLE SADDLE LEATHER

Sl No.	Characteristic	Requirement	Method of Test (Ref to IS : 582-1970*)
(1)	(2)	(3)	(4)
i)	Total ash, percent by mass, *Max*	1·8	LC : 3
ii)	Solvent extractable substance, percent by mass	7·0 to 11·5	LC : 4
iii)	Water soluble matter, percent by mass, *Max*	14	LC : 6
iv)	*p*H of water solubles	Not below 3·5	LC : 18
v)	Differential number, *Max*	0·6	LC : 18
vi)	Degree of tannage, *Min*	55	LC : 21

Note — Calculations of requirements (i) to (iii) are done on zero percent moisture basis.

*Methods of chemical testing of leather (*first revision*).

3.8 Size and Shape — The material shall be supplied in the form of full butts, trimmed free of toggle, punch and nail mark.

4. PACKING

4.1 The material shall be packed as agreed to between the purchaser and the supplier.

5. MARKING

5.1 The leather packages shall be marked with the name of the manufacturer, recognized trade-mark, if any; number of pieces of leather; and month and year of manufacture.

5.1.1 The package may also be marked with the Standard Mark.

Note — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6. SAMPLING AND CRITERIA FOR CONFORMITY

6.1 The scale of sampling and criteria for conformity of the material to the specification shall be as prescribed in IS : 5868-1969*.

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*Method of sampling for leather.

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